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右美托咪定和丙泊酚用于电休克治疗联合奥氮平治疗精神分裂症疗效的影响*

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摘要 目的:探究精神分裂症患者联用奥氮平与电休克治疗的可行性,并分析电休克治疗前应用右美托咪定和丙泊酚对患者应激反应的影响。**方法:**选择2019年4月至2021年4月在我院接受治疗的120例精神分裂症患者为研究对象,将其按照随机数字表法区分为A组、B组和C组(每组各40例患者),A组患者单纯接受奥氮平治疗,B组患者在A组基础上加用电休克治疗(术前使用丙泊酚麻醉),C组在B组电休克治疗基础上加用右美托咪定麻醉,就A组和B组患者治疗前后的PANSS评分及治疗效果进行比较,就B组和C组患者血流动力学指标、电休克治疗指标以及不良反应发生率进行比较。**结果:**(1)治疗前两组患者PANSS量表阳性症状、阴性症状、一般精神病理及总分组间无差异($P>0.05$),治疗6周后B组患者阳性症状、阴性症状、一般精神病理及总分均明显低于A组($P<0.05$);(2)麻醉前(T0)时两组患者的HR、MAP组间比较无差异($P>0.05$),而在麻醉给药10 min(T1)和电击后5 min(T2)时,C组患者的HR与MAP均低于B组($P<0.05$);(3)B组与C组患者电休克治疗的相关指标诸如苏醒时间、自主呼吸恢复时间以及能量抑制指数上组间无差异($P>0.05$);(4)B组患者呃逆、躁动、头痛等不良反应总发生率为32.50%(13/40)高于C组患者上述不良反应总发生率5.00%(2/40)($P<0.05$)。**结论:**电休克治疗联合奥氮平对精神分裂症具有较好的治疗效果,术前若能够联用右美托咪定和丙泊酚进行麻醉,将显著改善患者应激症状,降低术后各类并发症发生率。

关键词:右美托咪定;丙泊酚;电休克治疗;奥氮平;精神分裂症

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Effect of Dexmedetomidine and Propofol on Electroconvulsive Therapy Combined with Olanzapine in the Treatment of Schizophrenia*

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ABSTRACT Objective: To explore the feasibility of combined olanzapine and electroconvulsive therapy in patients with schizophrenia, and to analyze the effects of dexmedetomidine and propofol on the stress response of patients before electroconvulsive therapy. **Methods:** 120 patients with schizophrenia who were treated in our hospital from April 2019 to April 2021 were selected as the research objects, and they were divided into groups A, B and C according to the random number table method (40 for each group). Patients in group A were treated with olanzapine alone, patients in group B were treated with electroconvulsive therapy on the basis of group A (preoperative propofol anesthesia), and patients in group C were treated with electroconvulsive therapy on the basis of electroconvulsive therapy in group B. Medetomidine anesthesia, compare the PANSS scores and treatment effects of patients in group A and B before and after treatment, and compare the hemodynamic indexes, electroconvulsive treatment indexes and the incidence of adverse reactions in group B and C patients Compare. **Results:** (1) There was no difference between the positive symptoms, negative symptoms, general psychopathology, and the general group in the PANSS scale of the two groups of patients before treatment ($P>0.05$). After 6 weeks of treatment, the positive symptoms and negative symptoms of group B were Symptoms, general psychopathology and total score were lower than group A ($P<0.05$); (2) Before anesthesia (T0), the differences in HR and MAP between the two groups were not different ($P>0.05$), while the HR and MAP of patients in group C were lower than those in group B ($P<0.05$) at 10 minutes (T1) and 5 minutes after electric shock (T2) after the administration of anesthesia; Treatment-related indicators such as wake-up time, spontaneous

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breathing recovery time, and energy suppression index were not different ($P>0.05$); (4) The total incidence of hiccup, agitation, headache and other adverse reactions in group B was 32.50 % (13/40), higher than 5.00 % (2/40) in group C ($P<0.05$). **Conclusion:** Electroconvulsive therapy combined with olanzapine has a good therapeutic effect on schizophrenia. Preoperative anesthesia combined with dexmedetomidine and propofol will significantly improve stress symptoms and reduce the incidence of various postoperative complications.

Key words: Dexmedetomidine; Propofol; Electroconvulsive therapy; Clozapine; Schizophrenia

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前言

精神分裂症在临床上被称为“最难描述、最难做出完整定义的重性精神病”^[1],该病好发于青少年和成年早期人群,其临床表现主要为精神活动与现实环境的不协调,同时患者多伴有思维、情感、行为、感觉等方面的障碍,具有反复发作、治疗难度较大的特点^[2-3]。临床上将精神分裂症的临床症状区分为阳性症状、阴性症状和认知功能障碍三大核心,阳性症状主要指患者易出现幻觉、妄想、思维奔逸等,阴性症状主要指患者易出现消沉、低落、意志减退、情感淡漠等,认知功能障碍主要指患者易出现记忆、情感态度、指令执行等障碍^[4,5]。近年调研数据显示:受人口基数不断增大和人口老龄化等因素的影响,精神分裂症患者患病率呈现逐年递增趋势^[6],另有研究指出,精神分裂症对个体的正常寿命造成影响,属于较为严重的致残性精神障碍,已成为全球性公共卫生事件^[7]。早期诊断和干预是改善精神分裂症患者预后的重要手段,奥氮平属于非典型抗精神病药物,对改善精神分裂症患者阳性症状效果较好,但也有较多研究指出该药对精神分裂症患者的认知功能改善效果欠佳^[8]。电休克治疗又被称为电抽搐治疗,是以一定量电流通过大脑,引起患者意识丧失和痉挛发作,进而达到治疗目的的干预手段,已有研究指出,电休克治疗有助于改善精神分裂症患者的病情、优化其认知功能^[9]。但也有研究认为,电休克治疗中患者常出现血流动力学不稳定情况^[10],本研究拟通过设立对照组的方式,论证对奥氮平联合电休克治疗患者术前应用右美托咪定和丙泊酚麻醉的可行性,以期改善精神分裂症患者的预后提供临床参考。现详述如下:

1 资料与方法

1.1 一般资料

选择2019年4月至2021年4月在我院接受治疗的120例精神分裂症患者为研究对象,将其按照随机数字表法区分为A组、B组和C组(每组各40例患者)。

纳入标准:(1)入组对象均经临床诊断确诊为精神分裂症^[11];(2)病历资料齐全;(3)调研报医院伦理学会批准后实施;(4)患者家属签署知情同意书。

排除标准:(1)合并精神发育迟缓或痴呆者;(2)合并其他脑器质性疾病或严重躯体疾病者;(3)合并酒精或药物依赖者;(4)过敏性体质者;(5)合并全身慢性感染或免疫系统疾病者;(6)无家属陪同者。

1.2 干预方法

A组患者单纯口服奥氮平片(江苏豪森药业集团有限公司,规格:5 mg,片剂,批准文号:H20052688)进行治疗,起始剂

量为5 mg/d,1周内药物剂量逐渐增加至10~15 mg/d,最大剂量为25 mg/d。连续服用6周。

B组患者在A组基础上加用电休克治疗(术前使用丙泊酚麻醉),具体操作如下:患者取仰卧位,静脉滴注阿托品(天津金耀药业有限公司,规格:1 mL:0.5 mg,批准文号:H12020382)、丙泊酚(西安力邦制药有限公司,规格:10 mL:0.1 g,批准文号:H20010368)1.5 mg/kg实施麻醉,给予琥珀酰胆碱(上海旭东海普药业有限公司;国药准字H31020599;规格:2 mL)1 mg/kg。待患者自主呼吸停止及四肢震颤消失后,将导电胶电极置于患者优势半球颞侧,依据患者年龄设置电击电量。测定电阻 $<1000\ \Omega$,托住患者下颞部后通电5 s,待电休克结束后立即使用气囊加压供氧直至患者意识恢复。注意在电休克治疗当天应停用奥氮平,电休克治疗频次为第一周3次,第二周起每周2次,连续治疗6周。

C组在B组电休克治疗基础上加用右美托咪定麻醉,奥氮平及电休克治疗应用剂量一致,仅在麻醉前用药时,C组患者应先静脉泵注右美托咪定(扬子江药业集团有限公司,规格:2 mL:0.2 mg,批准文号:H20183219)0.5 μ g/kg,泵注10 min后再使用丙泊酚及其他麻醉药物。连续治疗6周。

1.3 观察指标及评测标准

1.3.1 A组和B组患者临床治疗效果差异 使用阳性与阴性症状量表(Positive and Negative Syndrome Scale, PANSS)^[12]对A组和B组患者治疗效果进行评估,该量表包括阳性症状量表、阴性症状量表、一般精神病理学症状量表三大部分,评估项目分别为7项和16项,每个项目得分2-7分,症状严重程度逐渐增加。本研究分析两组患者接受干预前和干预后6周时PANSS量表得分情况,并实施组间差异性比较。

1.3.2 B组和C组患者应激指标变化分析 分别于麻醉前(T0)、麻醉给药10 min(T1)和电击后5 min(T2)时记录两组患者的血流动力学指标诸如心率(Heart rate, HR),平均动脉压(Mean arterial pressure, MAP),并实施组间差异性比较。

1.3.3 B组和C组患者电休克治疗相关指标差异性比较 分别记录B组和C组患者电休克治疗相关指标诸如苏醒时间、自主呼吸恢复时间以及能量抑制指数,并实施组间差异性比较。

1.3.4 B组与C组患者不良反应发生情况比较 统计B组和C组患者呃逆、躁动、头痛等不良反应的发生率,并实施组间差异性比较。

1.4 统计学方法

将采集的数据录入SPSS22.0软件中进行处理,计数资料采用[n(%)]表示,采用卡方检验,计数资料采用($\bar{x}\pm s$)表示,采用

t 检验,取 $P<0.05$ 为差异具有统计学意义。

2.1 三组患者一般临床资料差异性比较

三组患者一般资料组间无差异($P>0.05$)。见表 1。

2 结果

表 1 三组患者一般临床资料比较($\bar{x}\pm s$)/[n(%)]

Table 1 Comparison of general clinical data between the three groups ($\bar{x}\pm s$)/[N (%)]

Items		Group A (n=40)	Group B (n=40)	Group C (n=40)
Gender	Male	21	20	22
	Female	19	20	18
Average age (years)		41.29±3.22	41.34±2.39	41.43±3.10
Mean course of disease (months)		26.49±4.33	26.53±3.98	26.67±3.78
Education Level	Illiteracy	3	2	2
	Primary school diploma	4	5	6
	Junior high school diploma	10	11	12
	High school and above	23	22	20
Marital status	In marriage	31	30	28
	Not in marriage	9	10	12

2.2 A 组与 B 组患者治疗前后 PANSS 评分变化分析

性症状、阴性症状、一般精神病理及总分均明显低于 A 组($P<0.05$)。见表 2。

治疗前两组患者 PANSS 量表中阳性症状、阴性症状、一般精神病理及总分组间无差异($P>0.05$),治疗 6 周后 B 组患者阳

表 2 A 组与 B 组患者治疗前后 PANSS 评分变化分析($\bar{x}\pm s$)

Table 2 PANSS score changes in group A and Group B before and after treatment ($\bar{x}\pm s$)

Groups	n	Positive symptoms		Negative symptoms		General psychopathology		Total score	
		Before	After	Before	After	Before	After	Before	After
		treatment	treatment	treatment	treatment	treatment	treatment	treatment	treatment
Group A	40	28.29±4.33	18.22±3.20*	24.11±3.22	16.22±4.30*	45.33±5.40	34.39±4.10*	87.19±10.22	70.18±4.50*
Group B	40	28.34±3.98	12.39±2.98* [#]	24.31±3.09	10.28±2.10* [#]	45.29±4.98	28.39±3.98* [#]	88.02±6.98	59.66±5.44* [#]

Note: compared with the Group A, [#] $P<0.05$; compared with before the treatment, * $P<0.05$.

2.3 B 组与 C 组患者应激指标变化分析

无差异($P>0.05$),而在麻醉给药 10 min(T1)和电击后 5 min

对比显示,麻醉前(T0)时两组患者的 HR、MAP 组间比较 (T2)时,C 组患者的 HR 与 MAP 均低于 B 组($P<0.05$)。见表 3。

表 3 B 组与 C 组患者应激指标变化分析($\bar{x}\pm s$)

Table 3 Analysis of stress indexes in group B and GROUP C ($\bar{x}\pm s$)

Items	Groups	T0	T1	T2
HR (times/min)	Group B	79.11±6.79	76.18±5.34 [#]	123.29±10.29 [#]
	Group C	80.11±5.49	70.19±5.44	92.39±4.59
MAP (mmHg)	Group B	105.48±8.29	98.28±6.50 [#]	130.28±10.29 [#]
	Group C	106.56±8.22	87.69±6.55	104.38±6.59

Note: compared with the Group B, [#] $P<0.05$.

2.4 B 组与 C 组电休克治疗相关指标差异性比较

($P<0.05$)。见表 5。

经比较发现,B 组与 C 组患者电休克治疗的相关指标诸如苏醒时间、自主呼吸恢复时间以及能量抑制指数上组间无差异($P>0.05$)。见表 4。

2.5 B 组与 C 组患者不良反应发生情况比较

B 组患者呃逆、躁动、头痛等不良反应总发生率为 32.50 % (13/40) 高于 C 组患者上述不良反应总发生率 5.00 % (2/40)

3 讨论

精神分裂症是一组病因未明、多起病于青壮年,以感知、思维、情感和行为障碍为具体表现,以精神活动与环境不协调为特征的精神疾病^[13],该症患者通常意识清晰,智能尚好,呈现病程迁移或复发加重特点^[14]。临床研究指出,精神分裂症患者通

表 4 B 组与 C 组电休克治疗相关指标差异性比较($\bar{x} \pm s$)Table 4 Comparison of electroconvulsive therapy related indicators between group B and GROUP C ($\bar{x} \pm s$)

Groups	n	Wake up time (min)	Spontaneous respiration recovery time (min)	Energy suppression index (%)
Group B	40	7.05±1.02	5.19±0.56	78.23±6.69
Group C	40	7.11±0.98	5.23±0.65	80.22±8.01

表 5 B 组与 C 组患者不良反应发生情况比较[n(%)]

Table 5 Comparison of adverse reactions between group B and GROUP C [n(%)]

Groups	n	Hiccup	Dysphoria	Headache	Drowsiness	The total incidence
Group B	40	4 (10.00)	5 (12.50)	3 (7.50)	1 (2.50)	13 (32.50)#
Group C	40	1 (2.50)	1 (2.50)	0 (0.00)	0 (0.00)	2 (5.00)

Note: compared with the Group B, # $P < 0.05$.

常具有“三高三低”的流行病学特点,即发现率低、就诊率低、依从性低、复发率高、致残率高、疾病负担高^[15,16],流调学显示,全球范围内近些年精神分裂症患者总数呈升高趋势,1990 年全球确诊病例数为 1300 万,至 2016 年已增至 2000 万,调查指出,全球精神分裂症患者患病率约为 0.28%,而我国该症的终生患病率达到 0.6%左右^[17,18]。

奥氮平及电休克治疗均为目前临床上常用的精神分裂症干预方式,奥氮平属于新型非典型神经安定药,能同多巴胺受体、5-HT 受体和胆碱受体相结合,产生拮抗作用,从而改善精神分裂症的阳性症状^[19,20]。电休克治疗是精神科常见治疗手段,目前在严重抑郁症、极度兴奋躁动者、精神药物治疗无效或药物治疗不耐受者中应用较为广泛^[21]。但两种干预方式联合对精神分裂症患者的干预研究仍较少,本文通过设立对照分组的方式,对比分析了单纯奥氮平治疗以及联用电休克治疗对精神分裂症患者的干预效果差异,结果显示,相比较于单纯应用奥氮平治疗的 A 组患者,联用电休克治疗的 B 组患者治疗后 PANSS 量表评分明显更低,说明联合治疗效果值得肯定,患者临床症状得到了显著改善,该研究结果与张飞龙^[22]的研究类似,该学者的研究显示奥氮平联合电休克治疗后患者的 PANSS 评分由 (73.28±4.49) 降低至 (60.18±6.55)。但学者 Zivkovic^[23]等的研究结果认为,奥氮平联合电休克相比单纯电休克并不会明显改善精神分裂症患者的 PANSS 评分,本文作者分析其原因可能与该学者纳入研究的病例数相对较少且来源较为集中有关。文中进一步通过将 B 组与 C 组开展组间差异性比较的方式,就右美托咪定和丙泊酚对接受电休克治疗患者血流动力学的影响进行了分析,结果显示,相较于单纯使用丙泊酚麻醉的 B 组患者,联用右美托咪定麻醉的 C 组患者 HR 及 MAP 均明显低于 B 组,提示右美托咪定可能发挥了稳定患者血流动力学指标的效果,这与学者郭娜^[24]的研究结果类似,该学者同样通过对比分组的方式发现,对 >65 岁行无抽搐电休克治疗患者麻醉联用右美托咪定有助于改善患者血流动力学指标,降低患者高血压、心动过速等不良心血管事件的发生率。本文作者分析认为,电休克治疗虽然对精神类疾病干预效果肯定,但在该疗法初步应用于临床时患者多在无麻醉条件下开展,易使患者出现肌肉抽搐、缺氧、窒息、心律失常现象,虽然现阶段已将麻醉技术与电休克技术相结合,降低了治疗过程中对

患者的伤害,但应用的麻醉药物如丙泊酚会对患者的呼吸、循环系统产生明显的抑制作用,影响患者的血流动力学,而右美托咪定属于 α 受体激动剂,能够通过内源性促睡眠途径发挥镇静作用,从而减少蓝斑核向视前核腹外侧部的投射活动,从而诱导产生镇静类似于正常的生理睡眠,降低患者不适感^[25-27]。文中结果虽提示 C 组患者术后苏醒时间、自主呼吸恢复时间均长于 B 组,但 C 组患者各类不良反应的发生率低于 B 组患者。这一结果与 Li X^[28]等人的研究具有相似性。进一步分析可知:右美托咪定减少传导路上交感神经递质的释放,抑制交感神经活性,减弱心血管反应,稳定血流动力学,降低不良反应。这进一步印证了将右美托咪定应用于电休克治疗术前麻醉的可行性^[29,30]。本文存在一定的不足之处,如样本量较少、未对该联合治疗的具体机制进行分析,将在后续继续进行。

综上所述,电休克治疗联合奥氮平对精神分裂症具有较好的治疗效果,术前若能联用右美托咪定和丙泊酚进行麻醉,将有助于改善患者应激症状,降低术后各类并发症发生率。

参 考 文 献(References)

- [1] 蒋秀兰,戴福强,秦淑国,等. 利培酮联合小剂量阿立哌唑对精神分裂症患者血清神经递质、糖脂代谢及 BMI 的影响[J]. 现代生物医学进展, 2020, 20(7): 1373-1376, 1392
- [2] Kalaria SN, Farchione TR, Mathis MV, et al. Assessment of Similarity in Antipsychotic Exposure-Response Relationships in Clinical Trials Between Adults and Adolescents With Acute Exacerbation of Schizophrenia[J]. J Clin Pharmacol, 2020, 60(7): 848-859
- [3] Zhou HY, Yang HX, Cui XL, et al. Self-reported sensory responsiveness patterns in typically-developing and early-onset schizophrenia adolescents: Its relationship with schizotypal and autistic traits[J]. J Psychiatr Res, 2020, 131(2): 255-262
- [4] Batinic B. Cognitive Models of Positive and Negative Symptoms of Schizophrenia and Implications for Treatment [J]. Psychiatr Danub, 2019, 31(Suppl 2): 181-184
- [5] Buckley PF. Neuroinflammation and Schizophrenia[J]. Curr Psychiatry Rep, 2019, 21(8): 72
- [6] Shahab S, Mulsant BH, Levesque ML, et al. Brain structure, cognition, and brain age in schizophrenia, bipolar disorder, and healthy controls [J]. Neuropsychopharmacology, 2019, 44(5): 898-906
- [7] Asher L, Fekadu A, Hanlon C. Global mental health and schizophrenia

- [J]. *Curr Opin Psychiatry*, 2018, 31(3): 193-199
- [8] Correll CU, Newcomer JW, Silverman B, et al. Effects of Olanzapine Combined With Samidorphan on Weight Gain in Schizophrenia: A 24-Week Phase 3 Study [J]. *Am J Psychiatry*, 2020, 177 (12): 1168-1178
- [9] Sinclair DJM, Zhao S, Qi F, et al. Electroconvulsive Therapy for Treatment-Resistant Schizophrenia [J]. *Schizophr Bull*, 2019, 45(4): 730-732
- [10] Teodorczuk A, Emmerson B, Robinson G. Revisiting the role of electroconvulsive therapy in schizophrenia: Where are we now? [J]. *Australas Psychiatry*, 2019, 27(5): 477-479
- [11] Winship IR, Dursun SM, Baker GB, et al. An Overview of Animal Models Related to Schizophrenia [J]. *Can J Psychiatry*, 2019, 64(1): 5-17
- [12] Wójciak P, Rybakowski J. Clinical picture, pathogenesis and psychometric assessment of negative symptoms of schizophrenia[J]. *Psychiatr Pol*, 2018, 52(2): 185-197
- [13] Nucifora FC Jr, Woznica E, Lee BJ, et al. Treatment resistant schizophrenia: Clinical, biological, and therapeutic perspectives [J]. *Neurobiol Dis*, 2019, 131(3): 104257
- [14] Girdler SJ, Confino JE, Woesner ME. Exercise as a Treatment for Schizophrenia: A Review [J]. *Psychopharmacol Bull*, 2019, 49(1): 56-69
- [15] Queirós T, Coelho F, Linhares L, et al. Esquizofrenia: O Que o Médico Não Psiquiatra Precisa de Sabe Schizophrenia: What Non-Psychiatrist Physicians Need to Know [J]. *Acta Med Port*, 2019, 32(1): 70-77
- [16] McCutcheon RA, Reis Marques T, Howes OD. Schizophrenia-An Overview[J]. *JAMA Psychiatry*, 2020,77(2): 201-210
- [17] Charlson FJ, Ferrari AJ, Santomauro DF, et al. Global Epidemiology and Burden of Schizophrenia Findings From the Global Burden of Disease Study 2016[J]. *Schizophr Bull*, 2018, 44(6): 1195-1203
- [18] Rossetti I, Brambilla P, Papagno C. Metaphor Comprehension in Schizophrenic Patients[J]. *Front Psychol*, 2018, 9(1): 670
- [19] Smith RC, Leucht S, Davis JM. Maximizing response to first-line antipsychotics in schizophrenia: a review focused on finding from meta-analysis[J]. *Psychopharmacology (Berl)*, 2019, 236(2): 545-559
- [20] Krepela J, Hosak L, Pachlova B, et al. Maintenance electroconvulsive therapy in schizophrenia[J]. *Psychiatr Danub*, 2019, 31(1): 62-68
- [21] Rothärmel M, Krir MW, Moulrier V, et al. Electroconvulsive therapy in ultra-resistant schizophrenia: A case series [J]. *Asian J Psychiatr*, 2019, 44(91): 6-7
- [22] 张飞龙. 奥氮平与齐拉西酮联合改良型电休克治疗首发精神分裂症应用对比研究[J]. *淮海医药*, 2019, 37(3): 81-83
- [23] Zivkovic M, Mihaljevic-Peles A, Muck-Seler D, et al. Remission Is not Associated with DRD2 rs1800497 and DAT1 rs28363170 Genetic Variants in Male Schizophrenic Patients after 6-months Monotherapy with Olanzapine[J]. *Psychiatr Danub*, 2020, 32(1): 84-91
- [24] 郭娜, 杜静怡, 郭越, 等. 右美托咪定对丙泊酚麻醉下无抽搐电休克治疗老年患者麻醉恢复质量的影响[J]. *中华麻醉学杂志*, 2020, 40(6): 691-693
- [25] Benken S, Madrzyk E, Chen D, et al. Hemodynamic Effects of Propofol and Dexmedetomidine in Septic Patients Without Shock[J]. *Ann Pharmacother*, 2020, 54(6): 533-540
- [26] Carr ZJ, Cios TJ, Potter KF, et al. Does Dexmedetomidine Ameliorate Postoperative Cognitive Dysfunction? A Brief Review of the Recent Literature[J]. *Curr Neurol Neurosci Rep*, 2018, 18(10): 64
- [27] Kellner CH, Obbels J, Sienaert P. When to consider electroconvulsive therapy (ECT)[J]. *Acta Psychiatr Scand*, 2020, 141(4): 304-315
- [28] Li X, Chen CJ, Tan F, et al. Effect of dexmedetomidine for attenuation of propofol injection pain in electroconvulsive therapy: a randomized controlled study[J]. *J Anesth*, 2018, 32(1): 70-76
- [29] Takekawa D, Kubota M, Saito J, et al. Postoperative Dexmedetomidine-Induced Polyuria in a Patient With Schizophrenia: A Case Report[J]. *A A Pract*, 2020, 14(5): 131-133
- [30] Andrade C, Streiner DL. Dexmedetomidine and Post-Electroconvulsive Therapy Agitation Scores[J]. *J ECT*, 2018, 33(3): 217

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- [26] Arslanoglu Aydin E, Demir S, Aydin O, et al. Pleural effusion as an atypical presentation of Kawasaki disease: a case report and review of the literature[J]. *J Med Case Rep*, 2019, 13(1): 344-347
- [27] McMurray J C, May J W, Cunningham M W, et al. Multisystem Inflammatory Syndrome in Children (MIS-C), a Post-viral Myocarditis and Systemic Vasculitis-A Critical Review of Its Pathogenesis and Treatment[J]. *Front Pediatr*, 2020, 8(15): 626182
- [28] Kitamura S, Tsuda E. Significance of Coronary Revascularization for Coronary-Artery Obstructive Lesions Due to Kawasaki Disease [J]. *Heart*, 2019, 6(2): 224-229
- [29] Pham V, Hemptinne Q, Grinda J M, et al. Giant coronary aneurysms, from diagnosis to treatment: A literature review [J]. *Arch Cardiovasc Dis*, 2020, 113(1): 59-69
- [30] Sheikh A S, Hailan A, Kinnaird T, et al. Coronary Artery Aneurysm: Evaluation, Prognosis, and Proposed Treatment Strategies [J]. *Heart Views*, 2019, 20(3): 101-108
- [31] Pham V, Hemptinne Q, Grinda J M, et al. Giant coronary aneurysms, from diagnosis to treatment: A literature review [J]. *Arch Cardiovasc Dis*, 2020, 113(1): 59-69
- [32] Lin Z, Zheng J, Chen W, et al. Assessing left ventricular systolic function in children with a history of Kawasaki disease [J]. *BMC Cardiovasc Disord*, 2020, 20(1): 131